07 AUG 1986

Scott Air Force Base, Illinois

IRP Phase I-Records Search

Summary

Fire Protection Training Area No. 2

This site was used from the early 1950s until approximately 1969. Fuel was stored in 55-gallon drums adjacent to the site; often 100 to 200 drums. Drums were emptied by tipping over onto a soil and gravel-covered area and the spilled material was ignited. Extinguishing agents included CB, protein foam, and CO_2. Fuels included waste alcohol, gasoline, paint thinners, and JP-4 fuel. Burn frequencies averaged 1 or 2 times per month, with approximately 300-500 gallons of fuel used each exercise. Unburned fuel collection and oil-water separation were not practiced. Depth to groundwater ranges from 5-15 feet below grade. HARM score of 76.

Landfill

The landfill was begun in the early 1940s and was used for domestic refuse, hardfill and consruction rubble, wastewater treatment plant sludge, and indusrial wastes. The landfill was trench-and-fill operation, with trenches 8 to 10 feet deep. Up to 3 or 4 layers of trench-and-fill operations were performed, giving an approximate 30 to40 foot depth of fill material. Industrial wastes disposed include a quantity of paint (exceeding 1000 gallons) in cans, pesticides, oils, transformers, and 2 or 3 drums (of unknown contents). On occasion during the 1950s burning of landfill materials was practiced. The landfill was closed in 1976 but since 1983, hardfill material and wastewater treatment sludge again have been disposed at the surface. Groundwater levels are typically shallow in the range of 1 to 5 feet below grade. HARM score of 73.

Fire Protection Training Area No. 1

Used from 1942 to the early 1950s. Fuel was stored in 55-gallon drums adjacent to the site; drums were emptied onto a soil and gravel-covered area and the fuel wasignited for training exercises. Extinguishing agents were CB and protein foam. Fuels included contaminated gasoline, oils, paint thinners, and scrap fabric covered aircraft. Unburned fuel collection and oil-water separation were not practiced. Frequency of burns was at least monthly with several hundred gallons of fuel used each training exercise. Depth to groundwater ranges from 5-15 feet below grade. HARM score of 66.

chlorobromomethane

Facility 8550 Spill Site

In 1977 approximately 13,000 gallons of JP-4 fuel were estimated lost in an incident involving Tank8550. The incident alledgedly involved a 20,000 gallon spill, but only 6,000 or 7,000 gallons of fuel were recovered out of the diked area surrounding the tank, and an undetermined amount of fuel was dischared to Silver Creek. Depth to groundwater ranges from 5-15 feet below grade. HARM score of 62.

Fire Protection Training Area No. 3

Activated in 1969, and originally consisted of an aircraft mockup on a soil and gravel-covered area with no unburned fuel recovery and collection. In approximately 1979, a fuel recovery system was installed. This system includes an oil-water separator and an underground fuel storage tank. The water phase from the oil-water separator discharges to the sanitary sewer. Burn frequency is 2 to 3 times per quarter; a typical burn involves the release of approximately 900 gallons of fuel into the burn area, ignition and flame developement for 40 seconds, and extinguishing with various agents including AFFF, Halon 1211, CB, ABC dry chemical, and foam. Depth to groundwater ranges from 5-15 feet below grade. HARM score of 59.

Facility 1965 Spill Site

An underground tank adjacent to the Facility 1965 BX service station was discovered in the mid-1970s to be leaking. The leak was attributed to a faulty valve on the tank. Since the leak was discovered indirectly from odors in the adjacent sanitary sewer lines, it is not known how long the tank may have leaked. A major effort was undertaken to recover lost fuel and the tank was dug up, repaired and put back in place. Although several barrels of fuel were recovered from the pit dug to retrieve the tank, the extent of any remaining contamination was not documented. Depth to groundwater is 5-15 feet below grade. HARM score of 52.

Sludge Weathering Lagoon

Constructed and used during the mid-1970s. The lagoon was intended for use in weathering tank bottoms sludge removed from the adjacent POL tanks. Other industrial waste liquids, primarily scrap paint, paint thinners and waste oils, may have been disposed in this pit. Upon closing of the site, the sludges and other waste materials contained in the lagoon were removed along with some contaminated soils. The site was filled and graded. No samples were taken, however to verify that decontamination was complete. Depth to groundwater ranges from 5-15 feet below grade. HARM score of 47.

SUMMARY OF ENVIRONMENTAL SETTING

The environmental setting data reviewed for this investigation indicate that the following elements are relevant to the evaluation of past hazardous waste management practices at Scott Air Force Base:

- The mean annual precipitation is 39.1 inches and net precipitation (total precipitation minus evaporation) is calculated to be 3.1 inches.
- Flooding is not normally a problem at the base. Its occurrence is normally confined to the zone adjacent to Ash Creek and the Silver Creek lowland.
- Base surface soils are predominantly fine-grained, low to moderately low permeability silts and clays.

- Shallow aquifers (alluvium in Silver Creek valley and sand strata within glacial deposits) underlie the base at shallow depths, 20 feet or less below grade. The depth to a permanent water table in these units is probably within the range of 1 to 15 feet below land surface.
- Most of the base is possibly located in the recharge zone for these shallow aquifers.
- The shallow aquifers are utilized as a limited source of water supply by domestic and agricultural consumers near the base. The aquifers are of limited extent and are not regionally significant.
- A bedrock aquifer underlies the shallow units. It is also of limited usefulness. A few local consumers utilize this aquifer.
- Water quality in base surface waters normally meets the established criteria for the Illinois General Use classification.
- No threatened or endangered species of plants or animals are known to be in residence at Scott AFB. However, the Silver Creek floodplain forest may provide suitable habitat for such species and for migratory waterfowl.

It may be seen from these key elements that potential pathways facilitating the migration of hazardous-waste related contamination exist. Hazardous waste constituents present at ground surface could be mobilized to the shallow aquifers and subsequently to the deeper (rock) aquifer or to local surface waters. It is not likely that contamination migration would immediately impact off-base populations.

TABLE 2
RECOMMENDED MONITORING PROGRAM FOR PHASE II IRP
AT SCOTT AFB

	Site (Rating Score)	Recommended Monitoring Program
1.	Fire Protection Training Area No. 2 (76)	Conduct geophysical survey to determine subsurface conditions and optimum monitoring well locations. Install four wells based upon site-specific hydrogeologic conditions. Analyze water samples for the parameters listed in Table 6.2.
2.	Landfill (73)	Conduct geophysical survey to determine subsurface conditions and optimum monitoring well locations. Install ten wells at selected locations around the facility, based upon site-specific hydrogeologic conditions. Analyze water samples for the parameters listed in Table 6.2.
3.	Fire Protection Training Area No. 1 (66)	Conduct geophysical survey to determine subsurface conditions and optimum monitoring well locations. Install four wells based upon site-specific hydrogeologic conditions. Analyze water samples for the parameters listed in Table 6.2.
4.	Facility 8550 Spill Site (62)	Conduct geophysical survey to determine subsurface conditions and optimum monitoring well locations. Install four wells, based upon site-specific hydrogeologic conditions. Analyze water samples for the parameters listed in Table 6.2.
5.	Fire Protection Training Area No. 3 (59)	Conduct geophysical survey to determine subsurface conditions and optimum monitoring well locations. Install four wells, based upon site-specific hydrogeologic conditions. Analyze water samples for the parameters listed in Table 6.2.

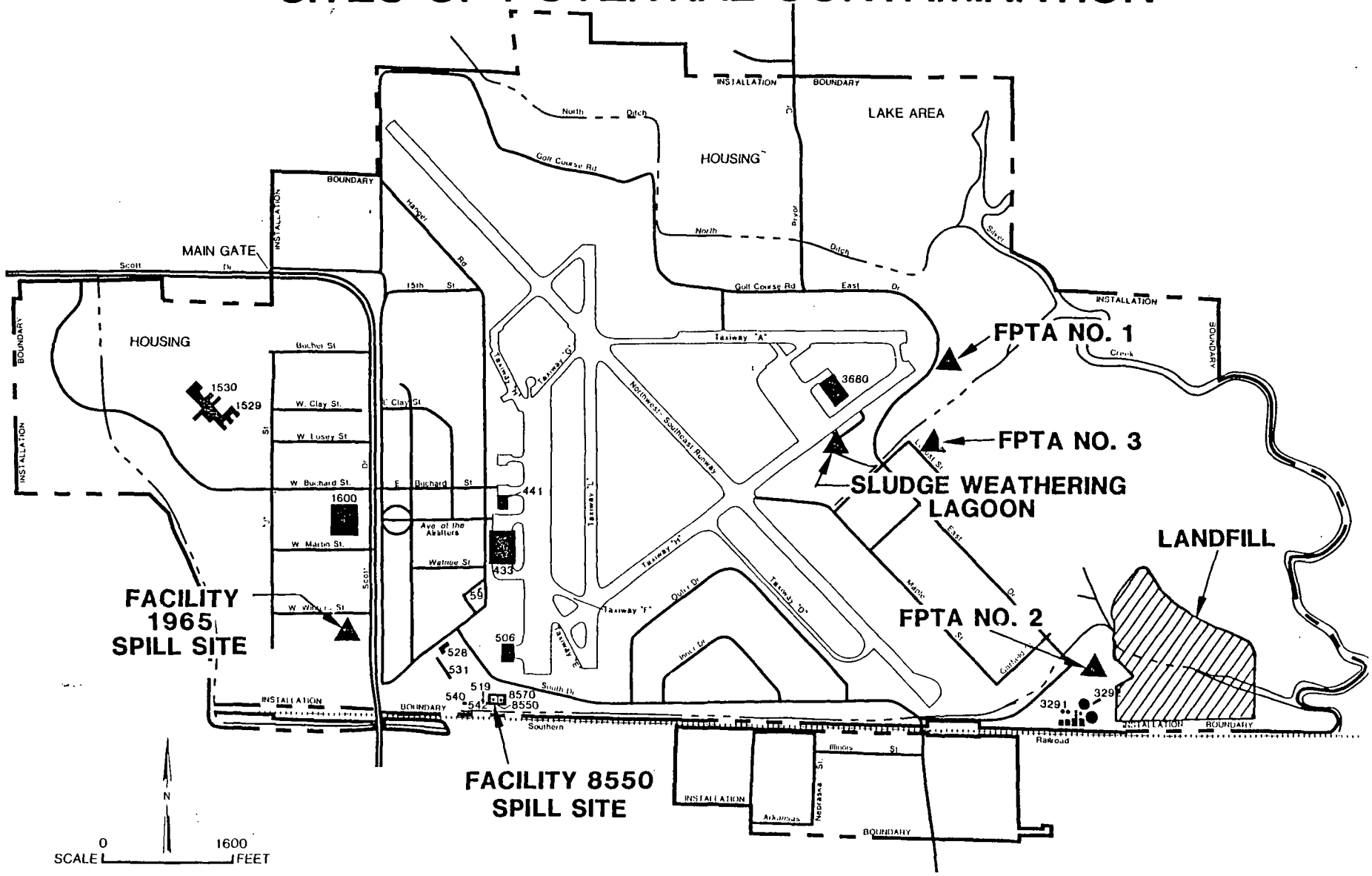
TABLE 2
RECOMMENDED MONITORING PROGRAM FOR PHASE II IRP
AT SCOTT AFB
(Continued)

	Site (Rating Score)	Recommended Monitoring Program
6.	Facility 1965 Spill Site (52)	Conduct geophysical survey to determine subsurface conditions and optimum monitoring well locations. Install four wells, based upon site-specific hydrogeologic conditions. Analyze water samples for the parameters listed in Table 6.2.
7.	Sludge Weathering Lagoon (47)	Conduct geophysical survey to determine depth to ground-water. Locate soil boring (four at each site) within site boundary. Analyze site for parameters listed in Table 6.2.

Source: Engineering-Science

SCOTT AFB

SITES OF POTENTIAL CONTAMINATION



SOURCE: INSTALLATION DOCUMENTS

FIGURE 1